

Breakout session 1

Using non-network solutions to reduce short-term demand peaks

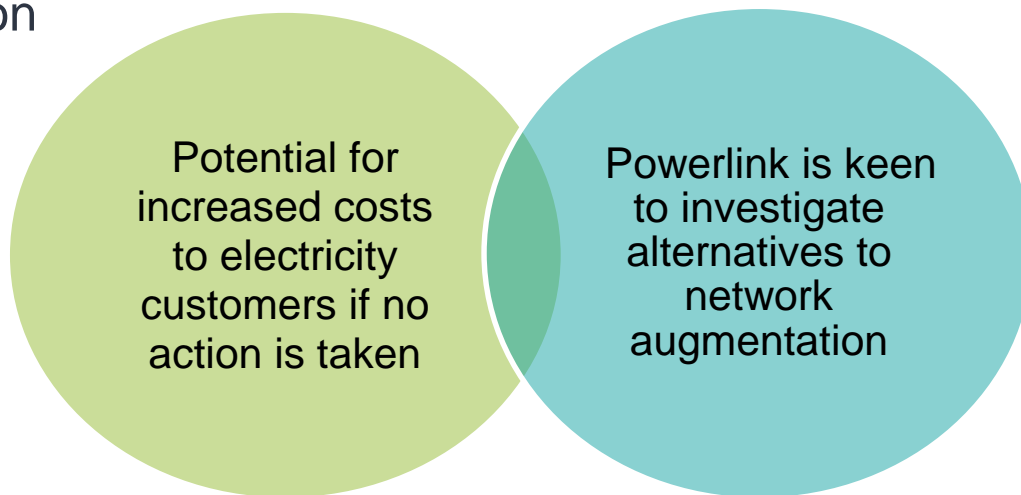
Stewart Bell
Executive General Manager Strategy and
Business Development



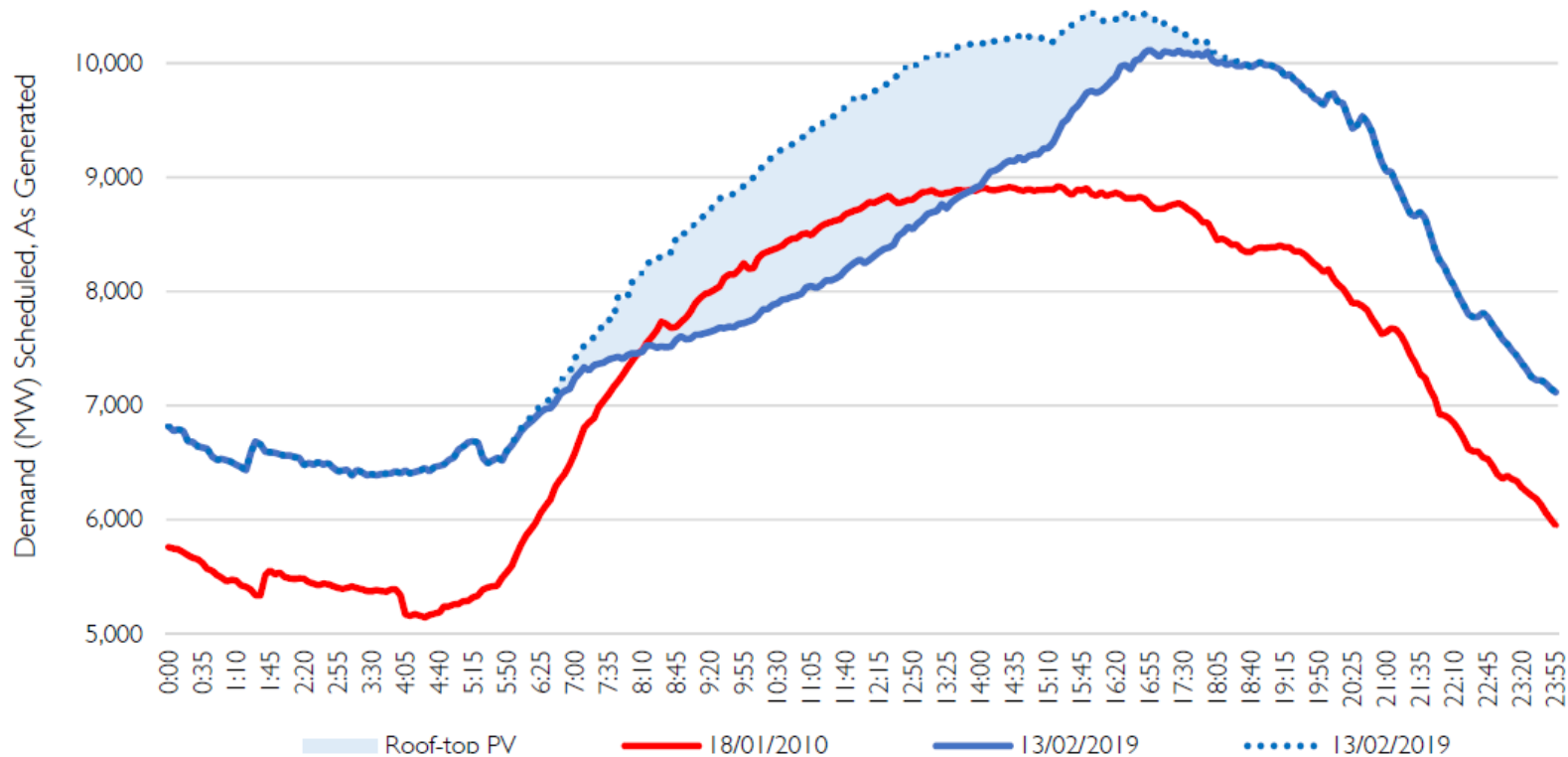
Session overview

1. Context setting (20 minutes)
2. Questions (5 minutes)
3. Interactive workshop (50 minutes)
4. Wrap-up (10 minutes)

1. Peak demand is increasing while energy through the network is falling
2. Minimum demand on the network is now occurring around midday
3. The peak has moved to early evening and is increasingly short duration



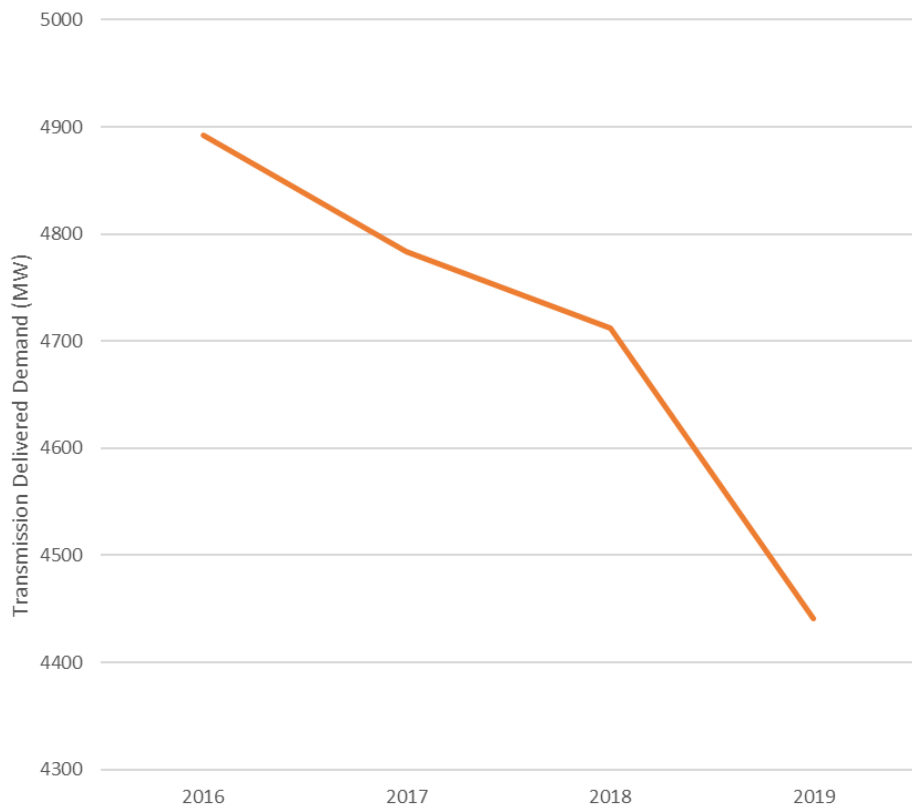
Evolution of Maximum Demand Over Time



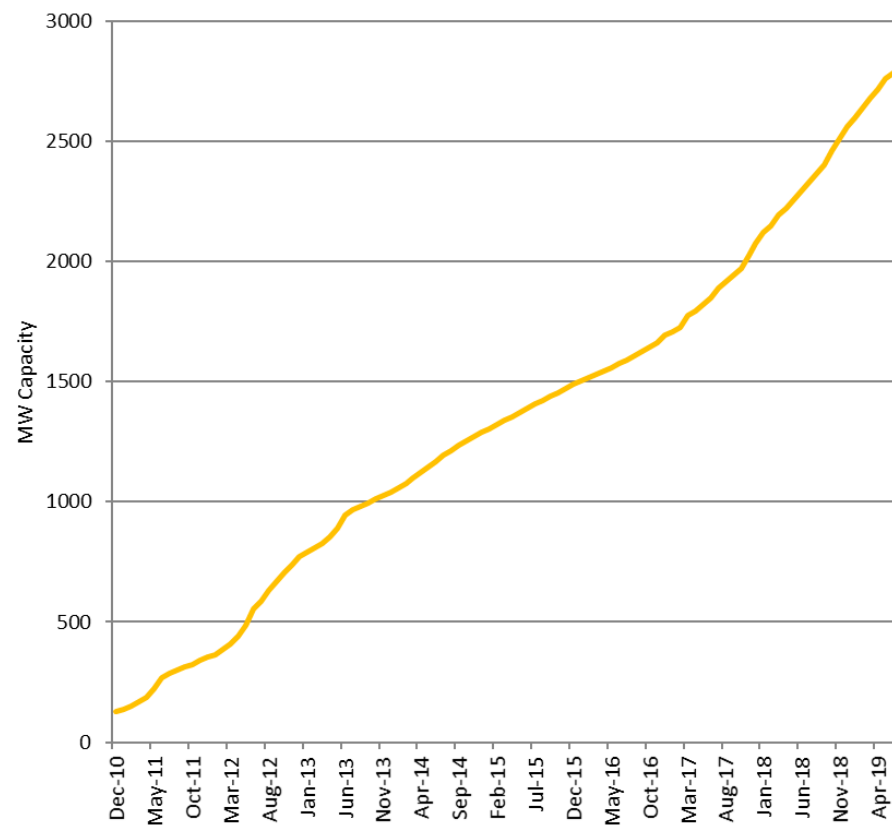
Dashed line includes the estimated production from rooftop solar to indicate end-use consumption

Minimum demand

Evolution on Minimum Demand Over Time



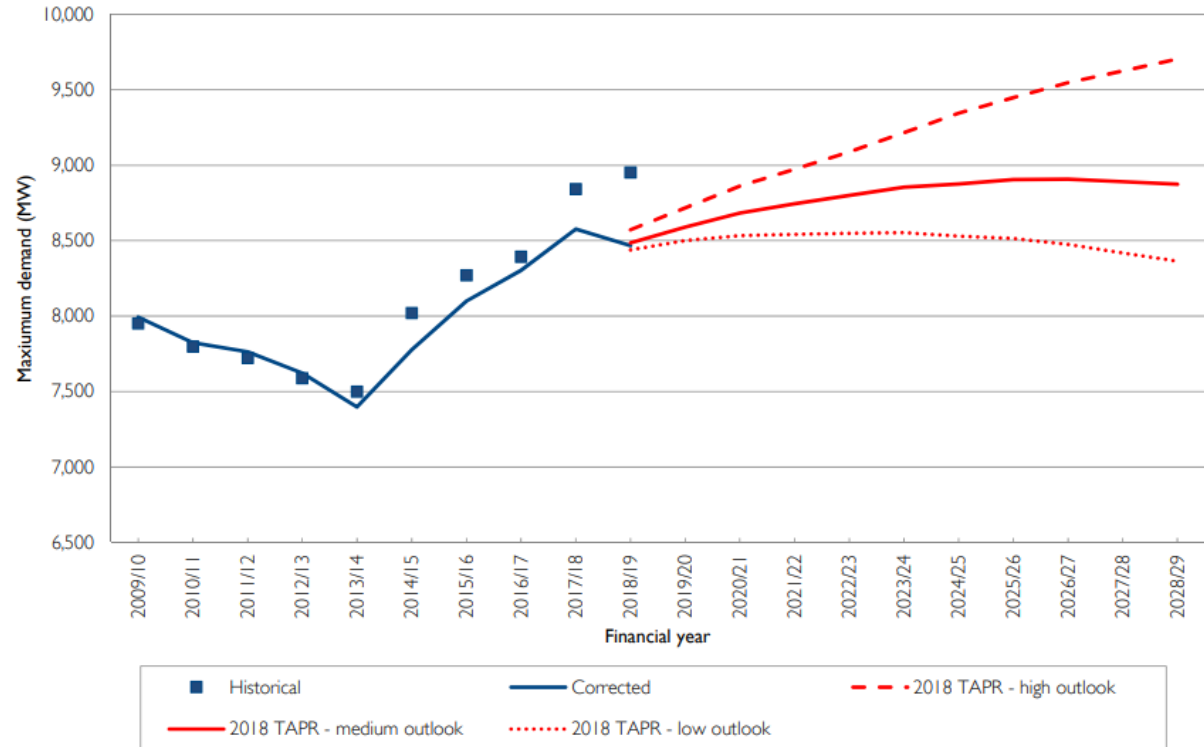
Cumulative Rooftop PV Installed in Queensland



Forecast peak demand

Demand growth offset by:

- Energy efficiency
- Demand response
- Distributed batteries



- Uncertainty regarding the magnitude and geographic location of demand:
 - Potential for significant increase or contraction of demand
 - Potential for increasing concentration of demand around high-density/ industrial locations, and falling demand elsewhere (combined effect of solar, energy storage and electric vehicles)
- Potential for demand to become significantly more responsive to signals to help manage peak demand
- Consumers may opt for lower reliability from their grid connection due to the partial self-sufficiency that comes with widespread energy storage



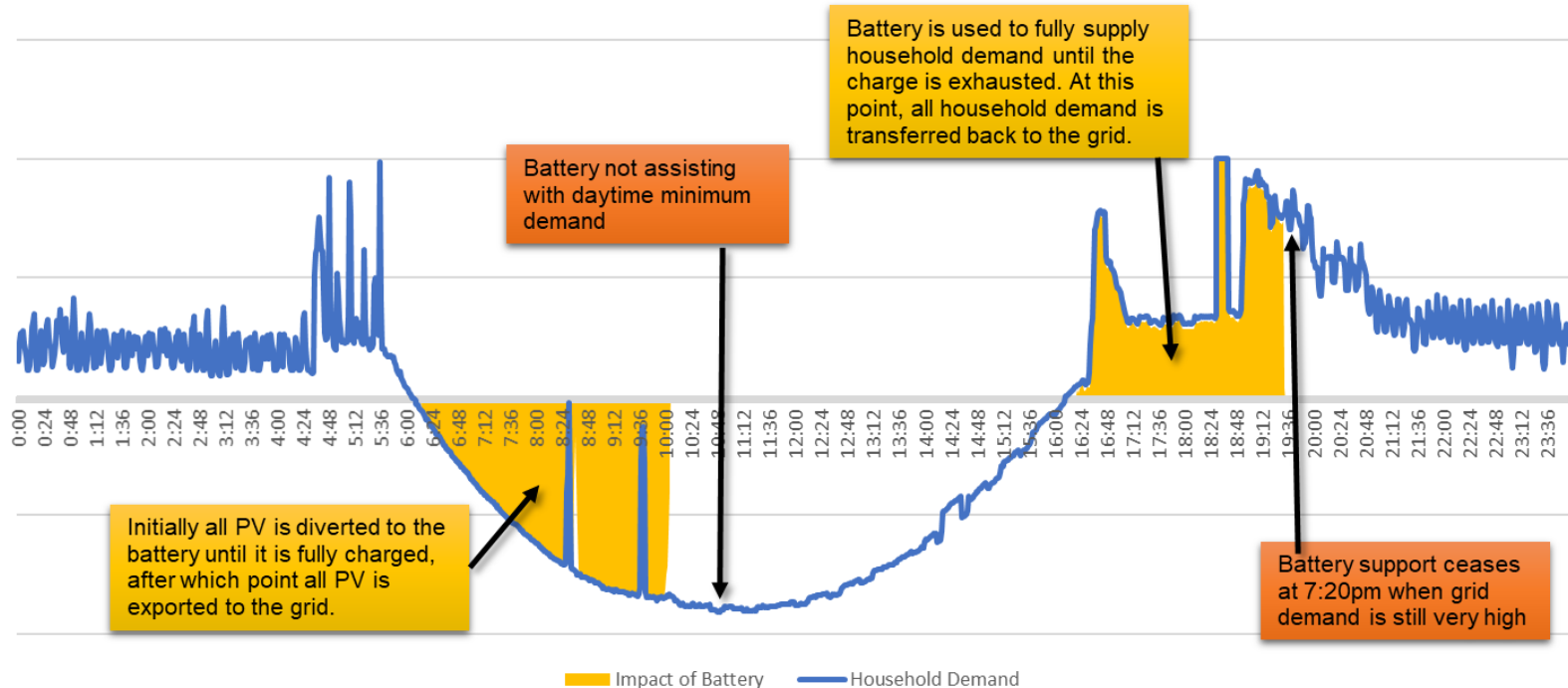
Every investment decision we make is about visioning.

What do we need to consider, what other options do we have and what do our customers expect?

Impact of Battery on Household Demand

Present Behaviour

(Actual data from 14/02/18 - peak demand day)

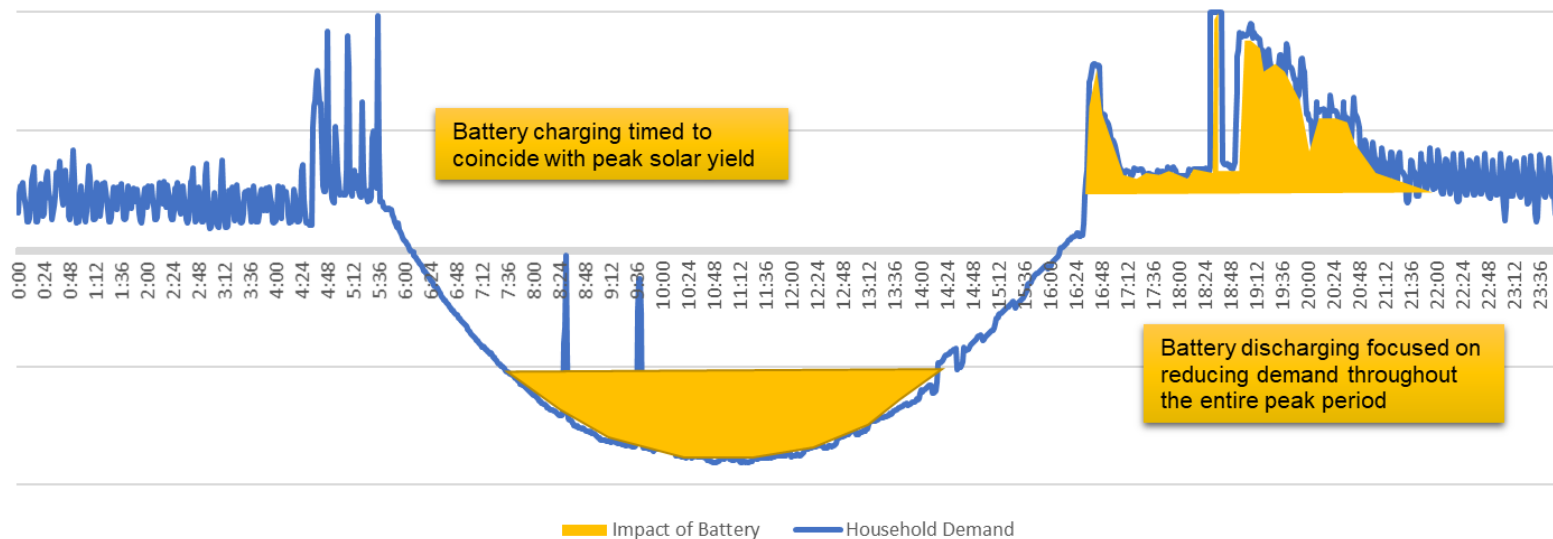


Ideal – Each premises managing its own peak

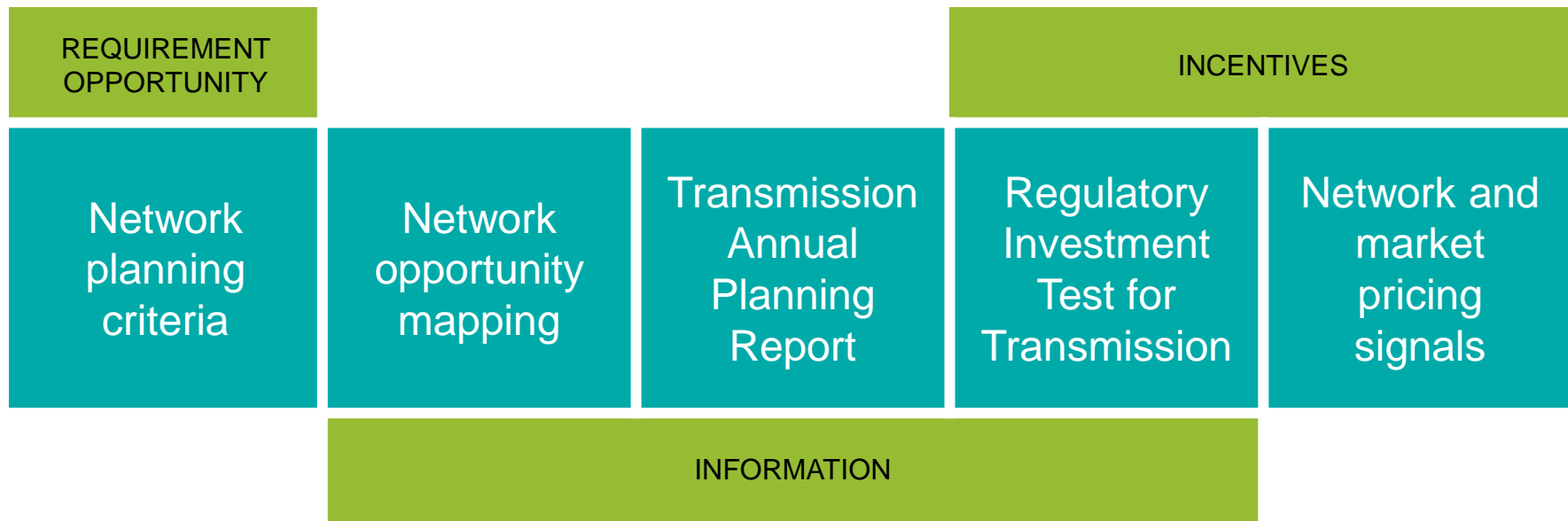


Impact of Battery on Household Demand Desired Response

To avoid the network peaks that drive investment, the demand needs to be managed locally



Existing mechanisms related to non-network solutions



Workshop questions

1. What is preventing customers from playing a more active role in dealing with network peaks?
2. What can Powerlink (individually, or with others) do to overcome these barriers?

